



## INDIANA DEPARTMENT OF TRANSPORTATION

### STANDARDS COMMITTEE MEETING MINUTES

#### *Driving Indiana's Economic Growth*

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June 29, 2006

#### MEMORANDUM

TO: Standards Committee

FROM: Dannie L. Smith, Secretary

RE: Minutes for the June 22, 2006 Standards Committee Meeting

The Standards Committee meeting was called to order by the Chairman at 9:00 a.m. on June 22, 2006 in the N730 Conference Room. The meeting was adjourned at 12:00 p.m.

The following members were in attendance:

Mark Miller, Chairman	Dave Andrews, Pvm. Engineering
Shakeel Baig, Dist Prod.	Ron Heustis, Constr. Management
Jim Keefer, Ft. Wayne Dist.	Dennis Kuchler, State Constr. Engr.
Anne Rearick, Struct. Services	Larry Rust, Traffic Control
Ron Walker, Materials Mgmt.	John Wright, Roadway Services

Also in attendance were the following:

Don Leonard, Constr. Mgmt	Joe Novak, Constr. Mgmt
Dan Smith, Secretary	Paul Berebitsky, ICI
Charley Alley, Contech	Mike McCool, Beam, Longest, Neff
Karl Stout, Contech	

#### Old Business

Item 11-2	Mr. Kuchler	6/22/06	4
305.03	New PCC Base	300-8	
Action:	Passed as Revised		
Item 11-3	Mr. Kuchler	6/22/06	5
305.05	Widening with PCC Base	300-10	
Action:	Passed as Revised		
Item 11-9	Mr. Kuchler	6/22/06	6
605.04(c)	Proportioning and Placing	600-21	
Action:	Passed as Revised		

Item 11-12	Mr. Kuchler	6/22/06	7
715.12	Pavement Replacement	700-112	
Action:	Passed as Revised		
Item 11-14	Mr. Kuchler	6/22/06	8
801.11	Temporary Crossovers	800-11	
Action:	Passed as Revised		
Item 11-16	Mr. Kuchler	6/22/06	9
805.08	Controller Cabinet, Signal Service, and Detector Housing Installation	800-40	
Action:	Passed as Revised		
Item 12-4	Mr. Wright	6/22/06	10
Standard Drawings	AASHTO Type II, III, or IV I-Beams Indiana 54" Bulb-Tees Indiana Bulb Tees Greater Than 54" in Depth		
Action:	Passed as Revised		
Item 12-5	Mr. Wright	6/22/06	14
707.02	Materials	700-57	
707.03	General Requirements	700-58	
707.11	Method of Measurement	700-64	
707.12	Basis of Payment	700-64	
Action:	Passed as Submitted		
Item 12-6	Mr. Wright	6/22/06	15
711.02	Materials	700-72	
Action:	Passed as Revised		
Item 12-7	Mr. Wright	6/22/06	16
711.03	General Requirements	700-73	
Action:	Passed as Submitted		
Item 12-8	Mr. Wright	6/22/06	17
711.04	Certification of Fabricators	700-73	
Action:	Passed as Revised		
Item 12-9	Mr. Wright	6/22/06	18
711.08	Mill Test Reports	700-74	
Action:	Passed as Submitted		
Item 12-10	Mr. Wright	6/22/06	19
711.11	Straightening Material	700-75	
Action:	Passed as Revised		
Item 12-11	Mr. Wright	6/22/06	20
711.32(c)	<i>Welding of High Performance Steel</i>	700-80	
Action:	Passed as Revised		
Item 12-12	Mr. Wright	6/22/06	23
711.72	Method of Measurement	700-93	
Action:	Passed as Revised		
Item 12-13	Mr. Wright	6/22/06	24
711.73	Basis of Payment		
Action:	Passed as Revised		

New Business

Item 13-1	Mr. Kuchler	6/22/06	25
506.05	Trial Batch	500-39	
Action:	Passed as Submitted		
Item 13-2	Mr. Kuchler	6/22/06	26
610.03	General Requirements	600-32	
Action:	Passed as Revised		
Item 13-3	Mr. Wright	6/22/06	27
729	<i>PATCHING NON-DECK AREAS OF BRIDGE STRUCTURES</i>	700-158	
Action:	Withdrawn		
Item 13-4	Mr. Kuchler	6/22/06	30
908.02	Corrugated Steel Pipe and Pipe Arches	900-49	
Action:	Withdrawn		
Item 13-5	Mr. Wright	6/22/06	31
910.02(c)	<i>High Performance Steel</i>	900-72	
910.02 <del>(c)</del> (d)	Charpy V-Notch Toughness Tests	900-72	
910.02 <del>(d)</del> (e)	Mill Test Reports	900-73	
910.02 <del>(e)</del> (f)	High Strength Bolts, Nuts and Washers	900-73	
910.02 <del>(f)</del> (g)	Bolts other than High Strength Bolts	900-74	
Action:	Passed as Revised		
Item 13-6	Mr. Kuchler	6/22/06	32
108.08	Determination and Extension of Contract Time	100-76	
Action:	Passed as Developed at Meeting		
Item 13-7	Mr. Andrews	6/22/06	33
502.03	Concrete Mix Design	500-17	
Action:	Passed as Developed at Meeting		
Item 13-8	Mr. Wright	6/22/06	34
711.65(b)	Bolts, Nuts, and Washers	700-89	
711.66	Bolted Connections Using Other Than High Strength Bolts	700-92	
910.02 <del>(d)</del> (e)	Mill Test Reports	900-73	
910.02 <del>(e)</del> (f)2	Assembly of Structural Steel in Bridges	900-73	
Action:	Passed as Developed at Meeting		

NOTE: FHWA has approved all items that passed. The last sentence of Item 12-10 has been revised per their request.

cc:	Committee Members (7)	ACPA Representative (1)
	Districts (36)	Contech Representative (1)
	FHWA (4)	IKO Representative (1)
	ICI Representative (1)	Bridgetek Representative (1)
	IMAA Representative (1)	INDOT Toll Road (3)
	APAI Representative (1)	Traffic Design (3)
	ACEC Representative (1)	Estimators (3)
	ADS Representative (1)	Specification Writers (4)
	Mirich Representative	

REVISION TO 2006 STANDARD SPECIFICATIONS

SECTION 305, BEGIN LINE 19, INSERT AS FOLLOWS:

**305.03 New PCC Base**

Construction of new PCC bases shall be in accordance with 502, except for 502.14, and 502.20. *The CMDS shall be in accordance with 502.03 except utilization of the Department provided spreadsheet is not required.* The surface shall be finished with wet burlap or by wood floats. Smoothness of the base will be controlled with a 16 ft (4.9 m) long straightedge longitudinally and a 10 ft (3 m) long straightedge transversely.

Other sections containing specific cross references:	General Instructions to Field Employees Update Required? Y <u>X</u> N ____ By - Addition or Revision
None	Frequency Manual Update Required? Y ____ N <u>X</u> ____ By - Addition or Revision
Recurring Special Provisions potentially affected:	Standard Sheets potentially affected:
500-R-515	None
Motion: Mr. Kuchler Second: Mr. Walker Ayes: 9 Nays: 0	Action: Passed as revised Effective - August 2006 Letting 2008 Standard Specification Book

Received FHWA Approval? Yes

REVISION TO 2006 STANDARD SPECIFICATIONS

SECTION 305, BEGIN LINE 119, DELETE AND INSERT AS FOLLOWS:

Materials and construction requirements shall be in accordance with the applicable requirements of 502, except the following:-

- (a) coarse aggregate shall be Class A or higher;
- (b) joints shall be sawed in one pass and not sealed. Transverse joints constructed in the widening shall be aligned with existing transverse joints or cracks;
- (c) tining is not required;
- (d) shoulder corrugations are not required; ~~and~~
- (e) pavement smoothness shall be controlled by a 16 ft (4.9 m) straightedge;  
*and*
- (f) *utilization of the Department provided spreadsheet is not required.*

Other sections containing  
specific cross references:

None

General Instructions to Field Employees

Update Required? Y X N     

By - Addition or Revision

Frequency Manual

Update Required? Y      N X     

By - Addition or Revision

Recurring Special Provisions  
potentially affected:

500-R-515

Standard Sheets potentially affected:

None

Motion: Mr. Kuchler

Second: Mr. Walker

Ayes: 9

Nays: 0

Action: Passed as revised

Effective - August 2006 Letting

2008 Standard Specifications Book

Received FHWA Approval? Yes

REVISION TO 2006 STANDARD SPECIFICATIONS

SECTION 605, BEGIN LNE 61, DELETE AND INSERT AS FOLLOWS:

**(c) Proportioning and Placing**

Concrete shall be proportioned, mixed, and placed in accordance with 502, *except utilization of the Department provided spreadsheet is not required for the CMDS*. Where integral curb and gutter is specified, that portion of the curb below the upper surface elevation of the adjoining pavement shall be constructed by extending the pavement to the outer vertical plane of the curb at the time the pavement is placed. The concrete used in this extension shall be the same composition as that of the pavement.

Other sections containing  
specific cross references:

None

General Instructions to Field Employees

Update Required? Y X N     

By - Addition or Revision

Frequency Manual

Update Required? Y      N X     

By - Addition or Revision

Recurring Special Provisions  
potentially affected:

500-R-515

Standard Sheets potentially affected:

None

Motion: Mr. Kuchler

Second: Mr. Walker

Ayes: 9

Nays: 0

Action: Passed as revised

Effective - August 2006 Letting

2008 Standard Specifications Book

Received FHWA Approval? Yes

REVISION TO 2006 STANDARD SPECIFICATIONS

SECTION 715, BEGIN LINE 362, INSERT AS FOLLOWS:

The pavement replacement areas in Portland Cement Concrete pavements shall be filled with PCCP in accordance with 502 *except utilization of the Department provided spreadsheet is not required for the CMDS.*

Other sections containing  
specific cross references:

None

General Instructions to Field Employees

Update Required? Y X N     

By - Addition or Revision

Frequency Manual

Update Required? Y      N X     

By - Addition or Revision

Recurring Special Provisions  
potentially affected:

500-R-515

Standard Sheets potentially affected:

None

Motion: Mr. Kuchler  
Second: Mr. Walker  
Ayes: 9  
Nays: 0

Action: Passed as revised  
Effective - August 2006 Letting  
2008 Standard Specifications Book

Received FHWA Approval? Yes

REVISION TO 2006 STANDARD SPECIFICATIONS

SECTION 801, BEGIN LINE 500, INSERT AS FOLLOWS:

Temporary crossovers shall be either type A or type B as shown on the plans and shall be constructed in accordance with the applicable sections of 207, 402 or 502. *If applicable, a CMDS shall be submitted to the Engineer for approval. Utilization of the Department provided spreadsheet is not required.* When required to maintain median drainage, a 15 in. (375 mm) diameter pipe shall be placed at the centerline of the median under the crossover. If the crossover is to remain in place for future construction, the pipe shall have appropriate grated box ends in accordance with 715.

Other sections containing specific cross references:	General Instructions to Field Employees Update Required? Y <u>X</u> N ____ By - Addition or Revision
None	Frequency Manual Update Required? Y ____ N <u>X</u> ____ By - Addition or Revision
Recurring Special Provisions potentially affected:	Standard Sheets potentially affected:
500-R-515	None
Motion: Mr. Kuchler	Action: Passed as revised
Second: Mr. Walker	Effective - August 2006 Letting
Ayes: 9	2008 Standard Specifications Book
Nays: 0	

Received FHWA Approval? Yes



REVISION TO 2006 STANDARD SPECIFICATIONS

SECTION 805, BEGIN LINE 252, DELETE AND INSERT AS FOLLOWS:

A minimum of 12 in. (300 mm) and a maximum of 18 in. (450 mm) of loop wire duct will be permitted in the detector housing for each loop lead. Concrete used in the installation of detector housings shall be in accordance with 506, except *506.05 will not apply. A CMDS in accordance with 502.03 shall be submitted, however, utilization of the Department provided spreadsheet is not required.* ~~where~~ Where a portion of the road is closed or where there is no vehicular traffic, then class A concrete in accordance with 702 may be used. The concrete shall be placed flush with existing surface and shall be covered with a steel plate during the setting time.

Other sections containing  
specific cross references:

None

General Instructions to Field Employees

Update Required? Y X N     

By - Addition or Revision

Frequency Manual

Update Required? Y      N X     

By - Addition or Revision

Recurring Special Provisions  
potentially affected:

500-R-515

Standard Sheets potentially affected:

None

Motion: Mr. Kuchler

Second: Mr. Walker

Ayes: 9

Nays: 0

Action: Passed as revised

Effective - August 2006 Letting

2008 Standard Specifications Book

Received FHWA Approval? Yes

Item No. 12-4  
Mr. Wright  
Date: 6/22/06

STANDARD DRAWINGS

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707-SDPC-01, AASHTO Type II, III, or IV I-Beams  
707-SDPC-02, Indiana 54" Bulb-Tees  
707-SDPC-03, Indiana Bulb Tees Greater Than 54" in Depth

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Other sections containing  
specific cross references:

None

General Instructions to Field Employees

Update Required? Y\_\_\_ N\_X\_\_

By - Addition or Revision

Frequency Manual

Update Required? Y\_\_\_ N\_X\_\_

By - Addition or Revision

Recurring Special Provisions  
potentially affected:

707-B-085

Standard Sheets potentially affected:

See Above

Motion: Ms. Rearick  
Second: Mr. Andrews  
Ayes: 9  
Nays: 0

Action: Passed as revised  
Effective - January 2007 Letting  
2008 Standards Edition

Received FHWA Approval? Yes

**Typical for 0' Stern**

**INTERMEDIATE DIAPHRAGM**

**Typical for 0' Stern**

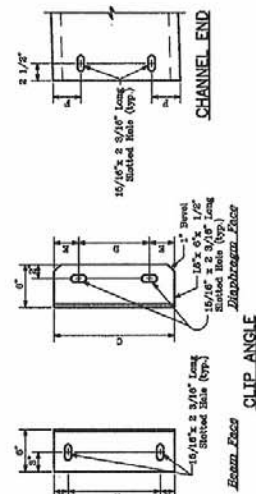
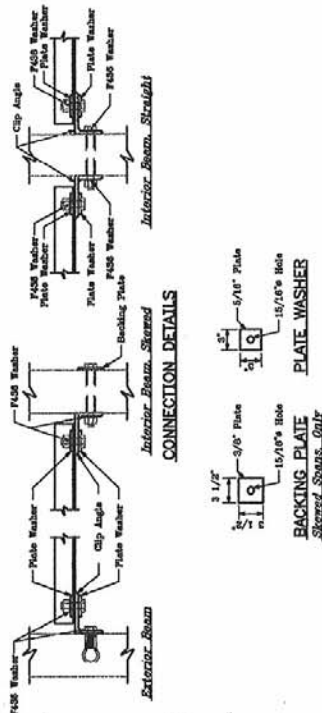
**INTERMEDIATE DIAPHRAGM**

**Typical for 0' Stern**

**INTERMEDIATE DIAPHRAGM**

**Diaphragm Notes**

Beam Type	Dimension					Channel Type
	A	B	C	D	E	
AASHTO type II	6"	1'-0"	1'-1"	10"	3 1/2"	C 12 x 20.7
AASHTO type III	1'-0"	1'-2 1/2"	1'-5 1/2"	10"	3 1/2"	C 18 x 42.7
AASHTO type IV	1'-4"	1'-5 1/2"	1'-8"	10"	5"	C 18 x 42.7



Beam Type	Dimension					Channel Type
	A	B	C	D	E	
AASHTO Type II	5"	1'-0"	1'-1"	6"	3 1/2"	3"
AASHTO Type III	1'-1"	1'-2 1/2"	1'-5"	3 1/2"	1'-0"	MC 18 x 42.7
AASHTO Type IV	1'-1"	1'-5 1/2"	1'-6"	10"	5"	MC 18 x 43.7

AASHTO TYPE II I-BEAMS
AASHTO TYPE III I-BEAMS
AASHTO TYPE IV I-BEAMS

AASHTO TYPE III I-BEAMSAASHTO TYPE IV I-BEAMS

Technical drawing of a beam-to-column connection, showing a side elevation and a cross-section.

**Side Elevation Labels:**

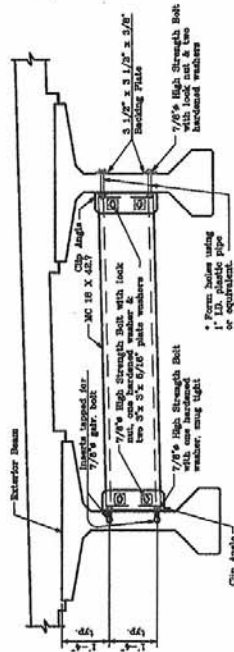
- Exterior flange
- Bolts spaced for 7/8" girth bolt
- 7/8" High Strength Bolt with lock nut, one hardened washer & two 5 x 5 x 5/16" plate washers
- 7/8" High Strength Bolt
- Clip Angle
- MC 18 x 42.7
- Form holes using 1/2" drill bit or equivalent
- 7/8" High Strength Bolt with lock nut & hardened washers
- Clip Angle

**Cross-section Labels:**

- 1/2"
- 1/2"
- Clip Angle



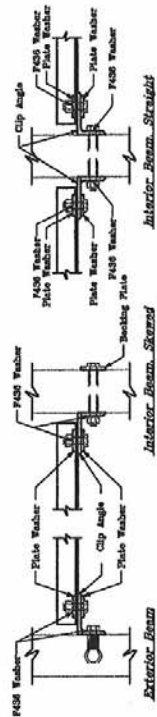
~Typical for 0° Skew~



INTERMEDIATE DIAPHRAGM

~Typical for Skewed Beams~

\* High Strength Bolt option shown. Inserts may be substituted.



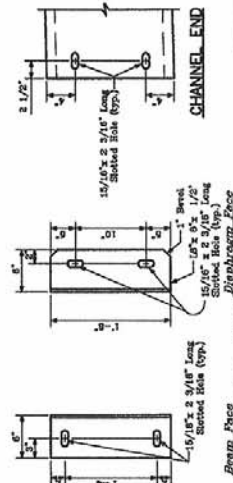
### CONNECTION DETAILS

Exterior Beam

Interior Beam Straight



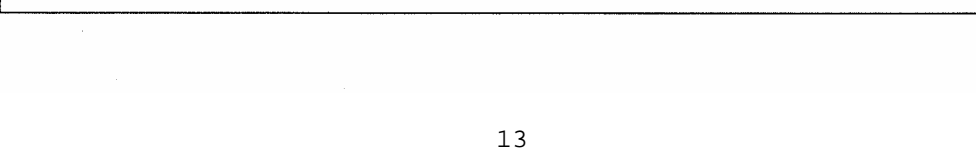
**BACKING PLATE**  
*Skewed Spans. Only*



Beam\_Face

Slotted Hole (Typ.)  
*Diaphragm Face*

CHANNEL END



\_\_\_\_\_

REVISION TO 2006 STANDARD SPECIFICATIONS

SECTION 707, AFTER LINE 22, INSERT AS FOLLOWS:

*Structural steel for steel intermediate diaphragms shall be in accordance with 910.02(a) and shall be galvanized in accordance with ASTM A 123 after cutting, bending, and welding. Bolts for steel intermediate diaphragms shall be 7/8 in. (22 mm) and in accordance with 910.02(e)1, except they shall be type 1. All bolts, nuts, washers, and similar threaded fasteners shall be galvanized in accordance with ASTM A 123 or may be mechanically zinc coated in accordance with ASTM B 695, class 50.*

SECTION 707, AFTER LINE 29, INSERT AS FOLLOWS:

*Structural steel diaphragms shall be fabricated and erected in accordance with 711. Steel diaphragms shall include all connection angles, plates, and associated hardware required for a complete installation. The Contractor shall replace, re-galvanize, or repair all damaged galvanized material at the discretion of the Engineer.*

SECTION 707, BEGIN LINE 333, INSERT AS FOLLOWS:

**707.11 Method of Measurement**

Precast or prestressed concrete structural members will be measured by the linear foot (meter) along the top of each member or by the square foot (square meter) of top surface of each member. Railing will be measured in accordance with 706.05 if specified as a pay item. *Structural steel for intermediate diaphragms will not be measured.*

SECTION 707, AFTER LINE 367, INSERT AS FOLLOWS:

*The cost of all materials, including galvanizing, labor, and equipment for furnishing and installing steel intermediate diaphragms shall be included in the cost of structural member, concrete of the type and size specified.*

Other sections containing  
specific cross references:

707.03  
707.10 Pg 700-64

General Instructions to Field Employees

Update Required? Y\_\_\_ N\_X\_\_

By - Addition or Revision

Frequency Manual

Update Required? Y\_\_\_ N\_X\_\_

By - Addition or Revision

Recurring Special Provisions  
potentially affected:

707-B-165

Standard Sheets potentially affected:

See Item 12-4

Motion: Ms. Rearick  
Second: Mr. Andrews  
Ayes: 9  
Nays: 0

Action: Passed as submitted  
Effective - January 2007 Letting  
2008 Standards Edition  
Need to revise the Technical Advisory

Received FHWA Approval? Yes

Item No. 12-6  
Mr. Wright  
Date: 6/22/06

REVISION TO 2006 STANDARD SPECIFICATIONS

SECTION 711, AFTER LINE 15, INSERT AS FOLLOWS:

*Where grade HPS 70W (HPS 485W) or grade HPS 50W (HPS 345W) steel is shown on the plans, the high performance steel shall be in accordance with 910.02(c).*

This item has been revised and item 13-5 has been added to place the material specifications in 910.02.

Other sections containing  
specific cross references:

None

General Instructions to Field Employees

Update Required? Y\_\_\_ N\_X\_\_\_

By - Addition or Revision

Frequency Manual

Update Required? Y\_\_\_ N\_X\_\_\_

By - Addition or Revision

Recurring Special Provisions  
potentially affected:

707-B-165

Standard Sheets potentially affected:

None

Motion: Mr. Wright  
Second: Mr. Heustis  
Ayes: 9  
Nays: 0

Action: Passed as revised  
Effective - January 2007 Letting  
2008 Standard Specifications Book

Received FHWA Approval? Yes

REVISION TO 2006 STANDARD SPECIFICATIONS

SECTION 711, AFTER LINE 34, INSERT AS FOLLOWS:

*Fabrication of high performance steel shall be in accordance with the AASHTO Guide Specifications for Highway Bridge Fabrication with HPS 70W Steel, an addendum to ANSI/AASHTO/AWS D1.5M/D1.5:2002, except as modified herein.*

Other sections containing  
specific cross references:

724.03(a) Pg 700-151  
724.03(c) Pg 700-151

General Instructions to Field Employees

Update Required? Y\_\_\_ N\_X\_\_

By - Addition or Revision

Frequency Manual

Update Required? Y\_\_\_ N\_X\_\_

By - Addition or Revision

Recurring Special Provisions  
potentially affected:

707-B-165

Standard Sheets potentially affected:

None

Motion: Mr. Wright  
Second: Mr. Heustis  
Ayes: 9  
Nays: 0

Action: Passed as submitted  
Effective - January 2007 Letting  
2008 Standard Specifications Book

Received FHWA Approval? Yes



REVISION TO 2006 STANDARD SPECIFICATIONS

SECTION 711, AFTER LINE 48, INSERT AS FOLLOWS:

*Only fabricators meeting the requirements of the AISC Quality Certification Program, "Major Steel Bridges (Cbr)" with "Fracture Critical Members Endorsement (F)", or approved equal, may be used to fabricate girders using high performance steel. Prior to approval for fabrication, the results of the latest AISC certification review shall be made available to the Engineer to determine if items critical to successful fabrication meet the needs of the specific work.*

Other sections containing  
specific cross references:

None

General Instructions to Field Employees

Update Required? Y\_\_\_ N\_X\_\_

By - Addition or Revision

Frequency Manual

Update Required? Y\_\_\_ N\_X\_\_

By - Addition or Revision

Recurring Special Provisions  
potentially affected:

707-B-165

Standard Sheets potentially affected:

None

Motion: Mr. Wright  
Second: Mr. Heustis  
Ayes: 9  
Nays: 0

Action: Passed as revised  
Effective - January 2007 Letting  
2008 Standard Specifications Book

Received FHWA Approval? Yes

REVISION TO 2006 STANDARD SPECIFICATIONS

SECTION 711, BEGIN LINE 91,DELETE AND INSERT AS FOLLOWS:

**711.08 Mill Test Reports**

Prior to, or concurrent with, the fabrication, ~~four copies~~ *a copy of the* mill test reports shall be furnished. If the manufacturer's mill test reports are not available, tests shall be made

Other sections containing  
specific cross references:

910.02(c) Pg 900-72  
910.02(d) Pg 900-73

Recurring Special Provisions  
potentially affected:

707-B-165

Motion: Mr. Wright  
Second: Mr. Heustis  
Ayes: 9  
Nays: 0

General Instructions to Field Employees

Update Required? Y\_\_\_ N\_X\_\_\_

By - Addition or Revision

Frequency Manual

Update Required? Y\_\_\_ N\_X\_\_\_

By - Addition or Revision

Standard Sheets potentially affected:

None

Action: Passed as submitted  
Effective - January 2007 Letting  
2008 Standard Specifications Book

Received FHWA Approval? Yes

REVISION TO 2006 STANDARD SPECIFICATIONS

SECTION 711, AFTER LINE 138, INSERT AS FOLLOWS:

*Short term application of heat to high performance steel for purposes of heat curving, heat straightening, camber and sweep adjustment, or for other reasons is limited and shall not exceed 1100°F (590°C). Heat applications shall be in accordance with Department approved procedures.*

Other sections containing  
specific cross references:

711.59 Pg 700-87

General Instructions to Field Employees

Update Required? Y\_\_\_ N\_X\_\_

By - Addition or Revision

Frequency Manual

Update Required? Y\_\_\_ N\_X\_\_

By - Addition or Revision

Recurring Special Provisions  
potentially affected:

None

Standard Sheets potentially affected:

None

Motion: Mr. Wright  
Second: Mr. Heustis  
Ayes: 9  
Nays: 0

Action: Passed as revised  
Effective - January 2007 Letting  
2008 Standard Specifications Book

Received FHWA Approval? Yes

REVISION TO 2006 STANDARD SPECIFICATIONS

SECTION 711, AFTER LINE 399, INSERT AS FOLLOWS:

**(c) Welding of High Performance Steel**

*All welding on high performance steel shall be in accordance with the ANSI/AASHTO/AWS D1.5M/D1.5 Bridge Welding Code, hereinafter referred to as the Bridge Welding Code, except as modified herein and by the AASHTO Guide Specifications for Highway Bridge Fabrication with HPS 70W Steel, an addendum to the 2002 Edition of the Bridge Welding Code.*

*Only submerged arc welding, SAW, and shielded metal arc welding, SMAW, processes will be permitted. Consumable handling requirements shall be in accordance with the Bridge Welding Code, Section 12.6.5 and 12.6.6, when using reduced preheat as described in Table 3 of the Guide, except that SAW consumables for matching weld metal shall meet the hydrogen control level of H4 in accordance with Section 12, Article 12.6.2. Consumable handling requirements shall meet the provisions of The Bridge Welding Code, Section 4, when using the preheat requirements of Table 4.4, except that the diffusible hydrogen level must never exceed H8. SMAW consumables may meet diffusible hydrogen levels of either H4 or H8 except the higher preheat and interpass temperatures as noted in Table 3 of the AASHTO Guide Specifications for Highway Bridge Fabrication with HPS 70W Steel shall apply to H8 conditions.*

*Filler metals used to make single pass fillet welds for web to flange applications which join HPS 70W steel plates, HPS 70W to grade 50W plates and for attaching stiffeners and connection plates to grade HPS 70W (HPS 485W) webs and flanges, shall be in accordance with the Bridge Welding Code, Table 4.1 for ASTM A 709, grade 50W (ASTM A 709M, grade 345W) base metal. Filler metals for single pass 5/16" fillet welds need not meet the requirements for exposed bare applications.*

*Filler metals used for all complete penetration groove welds joining grade HPS 70W (grade HPS 485W) plate to ASTM A 709, grade HPS 50W (A 709M, grade HPS 345W) or grade 50W (grade 345W) plate shall conform to the requirements for welding Grade 50W base metal.*

*Filler metals used for all complete penetration groove welds joining grade HPS 70W (grade HPS 485W) plates to grade HPS 70W (grade HPS 485W) plates shall conform to the requirements for HPS 70W (HPS 485W) base metal as follows:*

1. *Submerged Arc Welding process:*

*Wire - LA85 by Lincoln Electric Company*

*Flux - MIL800HPNi by Lincoln Electric Company*

2. *Shielded Metal Arc Welding process*

*Matching - E9018MR\**

*Undermatching - E7018MR\**

\* The designator 'MR', for moisture resistant coating, is required for all SMAW electrodes used for welding HPS 70W [HPS 485W] steels.

*The Contractor may request approval of alternate consumables for matching weld strengths in lieu of the above filler metals for SAW. The request for approval shall include documentation of successful welding and shall also include diffusible hydrogen tests, both in accordance with the Bridge Welding Code.*

*All welding procedures shall be qualified in accordance with the Bridge Welding Code Section 5, Qualification. In general, the provisions of Article 5.12 shall apply. Qualification tests shall measure strength, toughness and ductility, with results evaluated in accordance with Article 5.19. If specified on the plans, additional tests shall measure the Charpy V-notch toughness of the coarse grained area of the heat affected zone, HAZ. The notch in the specimens shall be carefully located in the coarse grained area of the HAZ, as determined by macro-etching the specimens prior to machining and testing. The toughness requirement for the HAZ shall be the same as the weld metal.*

*All procedure qualification tests shall be ultrasonically tested in accordance with the requirements of the Bridge Welding Code, Section 6, Part C. Evaluation shall be in accordance with Table 6.3, UT Acceptance – Rejection Criteria – Tensile Stress. Indications found at the interface of the backing bar may be disregarded regardless of the defect rating.*

*A representative of the Department must witness all welding procedure qualification tests.*

*Results of the welding procedure qualification tests and final welding procedure specifications shall be submitted to the Engineer for review and approval.*

*In general, post weld heat treatment will not be required. The use of such post weld heat treatment will require additional qualification testing.*

*Wherever magnetic particle testing is done, only the yoke technique will be allowed, as described in Section 6.7.6.2 of the Bridge Welding Code, modified to use alternating current only.*

REVISION TO 2006 STANDARD SPECIFICATIONS

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SECTION 711, CONTINUED.

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Other sections containing specific cross references:	General Instructions to Field Employees Update Required? Y___ N_X___ By - Addition or Revision
None	Frequency Manual Update Required? Y___ N_X___ By - Addition or Revision
Recurring Special Provisions potentially affected:	Standard Sheets potentially affected:
707-B-165	None
Motion: Mr. Wright Second: Mr. Heustis Ayes: 9 Nays: 0	Action: Passed as revised Effective - January 2007 Letting 2008 Standard Specifications Book

Received FHWA Approval? Yes

REVISION TO 2006 STANDARD SPECIFICATIONS

SECTION 711, BEGIN LINE 978,DELETE AND INSERT AS FOLLOWS:

**711.72 Method of Measurement**

~~Plain-structural~~ *Structural* steel shapes, fabricated steel, steel castings, iron castings, bolts, pins, rollers, rockers, anchor bolts, and threaded rods will be measured by the pound (kilogram). If the Schedule of Pay Items includes a lump sum item for structural steel, all

Other sections containing  
specific cross references:

None

General Instructions to Field Employees

Update Required? Y\_\_\_ N\_X\_\_\_

By - Addition or Revision

Frequency Manual

Update Required? Y\_\_\_ N\_X\_\_\_

By - Addition or Revision

Recurring Special Provisions  
potentially affected:

707-B-165

Standard Sheets potentially affected:

None

Motion: Mr. Wright  
Second: Mr. Heustis  
Ayes: 9  
Nays: 0

Action: Passed as revised  
Effective - January 2007 Letting  
2008 Standard Specifications Book

Received FHWA Approval? Yes

REVISION TO 2006 STANDARD SPECIFICATIONS

SECTION 711, BEGIN LINE 1000, INSERT AS FOLLOWS:

**711.73 Basis of Payment**

The accepted quantities of ~~plain~~ structural steel shapes, fabricated steel, steel castings, iron castings, bolts, pins, rollers, rockers, anchor bolts, and threaded rods will be paid for at a contract lump sum price if the Schedule of Pay Items includes a lump sum pay item for structural steel. Changes from the estimated quantities shall be in accordance

Other sections containing  
specific cross references:

None

General Instructions to Field Employees

Update Required? Y\_\_\_ N\_X\_\_

By - Addition or Revision

Frequency Manual

Update Required? Y\_\_\_ N\_X\_\_

By - Addition or Revision

Recurring Special Provisions  
potentially affected:

707-B-165

Standard Sheets potentially affected:

None

Motion: Mr. Wright  
Second: Mr. Heustis  
Ayes: 9  
Nays: 0

Action: Passed as revised  
Effective - January 2007 Letting  
2008 Standard Specifications Book

Received FHWA Approval? Yes



Item No. 13-1  
Mr. Kuchler  
Date: 6/22/06

REVISION TO 2006 STANDARD SPECIFICATIONS

SECTION 506, BEGIN LINE 113, INSERT AS FOLLOWS:

*A trial batch will not be required when the total quantity of partial depth patching or full depth patching will require less than 10 cyd (8 m<sup>3</sup>) of material per contract.*

Other sections containing  
specific cross references:

506.03 Pg 500-38

General Instructions to Field Employees

Update Required? Y X N    

By - Addition or Revision

Frequency Manual

Update Required? Y     N X    

By - Addition or Revision

Recurring Special Provisions  
potentially affected:

500-R-515

Standard Sheets potentially affected:

None

Motion: Mr. Kuchler  
Second: Mr. Walker  
Ayes: 9  
Nays: 0

Action: Passed as submitted  
Effective - August 2006 Letting  
2008 Standard Specifications Book

Received FHWA Approval? Yes

REVISION TO 2006 STANDARD SPECIFICATIONS

SECTION 610, BEGIN LINE 30, INSERT AS FOLLOWS:

Dense graded subbase shall be constructed in accordance with 302. PCCP for approaches shall be constructed in accordance with 502. *The CMDS shall be submitted to the Engineer for approval. Utilization of the Department provided spreadsheet is not required.*

Other sections containing specific cross references:	General Instructions to Field Employees Update Required? Y <u>X</u> N ____ By - Addition or Revision
None	Frequency Manual Update Required? Y ____ N <u>X</u> ____ By - Addition or Revision
Recurring Special Provisions potentially affected:	Standard Sheets potentially affected:
500-R-515	None
Motion: Mr. Kuchler Second: Mr. Walker Ayes: 9 Nays: 0	Action: Passed as revised Effective - August 2006 Letting 2008 Standard Specifications Book

Received FHWA Approval? Yes

REVISION TO 2006 STANDARD SPECIFICATIONS

SECTION 729, BEGIN LINE 1, INSERT AS FOLLOWS:

**SECTION 729 – PATCHING NON-DECK AREAS OF BRIDGE STRUCTURES**

**729.01 Description**

*This work shall consist of the removal of existing concrete from outside the deck area of a bridge structure and replacing such concrete with new mortar or concrete in accordance with 105.03.*

**729.02 Materials**

*Materials shall be in accordance with the following:*

Concrete, Class A.....	702.02
Epoxy Resin Adhesive .....	909.11

*The cement shall be portland cement type I.*

*Mortar shall consist of one part portland cement to two parts No. 23 sand.*

*An epoxy resin adhesive shall be selected from the Department's list of approved Non-Vapor Barrier Type Bonding Agents.*

**CONSTRUCTION REQUIREMENTS**

**729.03 Construction Requirements**

**(a) Concrete Removal**

*Areas of unsound concrete to be removed will be marked by the Engineer. Removal of the unsound concrete shall be performed by handchipping. Handchipping tools may be hand or mechanically driven. Jack hammers shall not be heavier than nominal 45 lb (20.5 kg) class and chipping hammers shall not be heavier than nominal 15 lb (6.8 kg) class. Only handchipping tools shall be used when removing concrete within 1 in. (25 mm) of reinforcing steel. Mechanically driven tools shall be operated at a maximum angle of 45 degrees from the concrete surface. Power-driven hand tools for removal by hand chipping will be permitted, as set out above.*

*Regardless of the method of removal, the removal operation shall be stopped if it is determined that sound concrete is being removed. Appropriate recalibration, or changes in equipment and methods shall be performed prior to resuming the removal operation.*

*Where the bond between the existing concrete and reinforcing steel has been destroyed, the concrete adjacent to the steel shall be removed to a minimum clearance of 1 in. (25 mm) around the entire periphery of the exposed steel. Exposed reinforcing steel shall not be damaged by the removal operation. All damaged reinforcing steel shall be replaced or repaired as directed.*

A vertical cut shall be made at least 1 in. (25 mm) outside the spalled area before the mortar or concrete is placed. The cut shall be a minimum 1 in. (25 mm) deep or to the top of reinforcing steel, whichever is less.

50                    **(b) Patching**

After the concrete removal operation is completed and just prior to placing the patches, all patch areas shall be heavily sandblasted to expose fine and coarse aggregates and to remove unsound concrete or laitance layers from the surface. Exposed reinforcing steel and the concrete under and around the exposed steel shall be thoroughly cleaned by sandblasting. The surface shall be then cleaned free of all dust, chips, water, and foreign material to the extent necessary to produce a firm, solid surface for adherence of the new concrete. The final surface shall be free of oil, grease and water. The air lines for sandblasting and air cleaning shall be equipped with oil traps.

60                    The surfaces of the prepared cavities and all the exposed reinforcing steel within the cavities shall be coated with an epoxy resin adhesive in accordance with 722.06(a)1 prior to placement of the patching materials.

Cavities of 1/2 in. (13 mm) in depth or greater shall be filled with concrete. Cavities less than 1/2 in. (13 mm) in depth, shall be filled with mortar.

The concrete patches shall be finished to closely match the texture and finish of the abutting existing concrete.

70                    The concrete patches shall be cured in accordance with 702.22.

**729.04 Method of Measurement**

Patching of non-deck areas of bridges will be measured by the square foot (square meter). Individual patches of 0.5 to 1.0 ft<sup>2</sup> (0.5 to 1.0 m<sup>2</sup>) will be measured as 1 ft<sup>2</sup> (1 m<sup>2</sup>). Individual patches of less than 0.5 ft<sup>2</sup> (0.5 m<sup>2</sup>) will not be measured for payment. All faces of a multi-faced patch will be measured accordingly for payment.

**729.05 Basis of Payment**

80                    This work will be paid for at the contract unit price per square foot (square meter) for concrete, A, patching.

Payment will be made under:

<b>Pay Item</b>	<b>Pay Unit Symbol</b>
Concrete, A, Patching .....	SFT (m <sup>2</sup> )

90                    The areas where the patching exceeds an average of 4 in. (100 mm) in depth will be paid for at a price to be determined by multiplying the contract unit price for concrete, A, patching by the following factors:

- (a) For portions thereof whose average depth is greater than 4 in. (100 mm) but not more than 6 in. (150 mm) .....1.25

REVISION TO 2006 STANDARD SPECIFICATIONS

SECTION 729, CONTINUED.

- 100 (b) For portions thereof whose average depth is greater than 6 in. (150 mm)  
 but not more than 8 in. (200 mm) .....1.50
- (c) For portions thereof whose average depth is greater than 8 in. (200 mm)  
 but not more than 10 in. (250 mm) .....1.75
- (d) For portions thereof whose average depth is greater than 10 in. (250 mm)  
 but not more than 12 in. (300 mm) .....2.00
- (e) For all portions thereof whose average depth is greater than 12 in.  
 (300 mm), the work shall be done as extra work. Payment will be made in  
 accordance with 104.03.

110 The cost of removing the existing concrete, furnishing, hauling, and placing all  
 materials, preparing the surface, individual patches of less than 0.5 ft<sup>2</sup> (0.5 m<sup>2</sup>), and all  
 necessary incidentals shall be included in the cost of concrete, A, patching.

The cost of replacing or repairing damaged reinforcing steel shall be included in  
 the cost of concrete, A, patching.

Other sections containing specific cross references:	General Instructions to Field Employees Update Required? Y___ N___ By - Addition or Revision
None	Frequency Manual Update Required? Y___ N___ By - Addition or Revision
Recurring Special Provisions potentially affected:	Standard Sheets potentially affected:
729-B-009	None
Motion: Mr.	Action: Withdrawn
Second: Mr.	

REVISION TO 2006 STANDARD SPECIFICATIONS

SECTION 908, BEGIN LINE 18, DELETE AND INSERT AS FOLLOWS:

Band couplers for type I and type II pipe shall have corrugations that mesh with the corrugations of the pipes sections being joined or the ~~annular~~ *annular* rerolled ends of those pipe sections. *Band couplers with projections (dimples) may be used with pipe with either annular or helical corrugations.* Band couplers for type IA and IIA pipe shall have corrugations that mesh with the corrugations of the pipe or shall be gasketed flat bands.

Other sections containing  
specific cross references:

715.02(a) Pg 700-106  
715.02(e) Pg 700-107  
908.04 Pg 900-50  
908.06 Pg 900-50  
908.07 Pg 900-51  
908.08 Pg 900-52  
908.09(a) Pg 900-52  
908.09(b) Pg 900-52

Recurring Special Provisions  
potentially affected:

None

Motion: Mr.  
Second: Mr.

General Instructions to Field Employees

Update Required? Y\_\_\_ N\_\_\_

By - Addition or Revision

Frequency Manual

Update Required? Y\_\_\_ N\_\_\_

By - Addition or Revision

Standard Sheets potentially affected:

None

Action: Withdrawn

REVISION TO 2006 STANDARD SPECIFICATIONS

SECTION 910, AFTER LINE 192, DELETE AND INSERT AS FOLLOWS:

**(c) High Performance Steel**

*High performance steel, HPS, shall be in accordance with ASTM A 709 (A 709M). In addition to the conditions listed in Section 6.7 of ASTM A 709 (A 709M), high performance steel may be furnished as hybrid/mixed design structural components using high performance steel plates in combination with high strength, low alloy steel plates and shapes, for welded or bolted applications in bridge construction.*

*The impact testing requirements for HPS in accordance with 10.1 and 10.2 of ASTM A 709 (A 709M) shall meet temperature zone 2.*

SECTION 910, LINE 193, DELETE AND INSERT AS FOLLOWS:

**(e) (d) Charpy V-Notch Toughness Tests**

SECTION 910, LINE 210, DELETE AND INSERT AS FOLLOWS:

**(d) (e) Mill Test Reports**

SECTION 910, LINE 214. DELETE AND INSERT AS FOLLOWS:

**(e) (f) High Strength Bolts, Nuts, and Washers**

SECTION 910, LINE 277, DELETE AND INSERT AS FOLLOWS:

**(f) (g) Bolts other than High Strength Bolts**

Other sections containing  
specific cross references:

711.65(b) Pg 700-89  
711.66 Pg 700-92  
910.02(d) Pg 900-73  
910.02(d)2 Pg 900-73  
911.02(f)5i Pg 900-107

General Instructions to Field Employees

Update Required? Y\_\_\_ N\_X\_\_

By - Addition or Revision

Frequency Manual

Update Required? Y\_\_\_ N\_X\_\_

By - Addition or Revision

Recurring Special Provisions  
potentially affected:

707-B-165

Standard Sheets potentially affected:

None

Motion: Mr. Wright  
Second: Mr. Heustis  
Ayes: 9  
Nays: 0

Action: Passed as revised  
Effective - January 2007 Letting  
2008 Standard Specifications Book

Received FHWA Approval? Yes

REVISION TO 2006 STANDARD SPECIFICATIONS

SECTION 108, BEGIN LINE 306, DELETE AND INSERT AS FOLLOWS:

If the Contractor finds it impossible for reasons beyond its control to complete the work within the contract time as specified prior to the expiration of the contract time, a written request may be made for an extension of time setting forth therein the reasons which will justify the granting of the request. A plea that insufficient time was specified is not a valid reason for extension of time. If the Engineer finds that the contract controlling operation was delayed because of conditions beyond the control and without the fault of the Contractor, such as acts of the public enemy, acts of Government, fires, floods, above normal ~~rainfall~~ *inclement weather*, lightning, tornadoes, earthquakes, epidemics, or strikes, it may extend time for completion in such amount as the conditions justify. The extended time for completion shall then be in full force and effect the same as though it were the original time for completion.

This item is being proposed to bring 108.08 into agreement with 101.02 that was revised from "above normal rainfall" to "above normal inclement weather" days some time ago.

Other sections containing  
specific cross references:

108.03, Pg 100-72  
108.08, Pg 100-79

Recurring Special Provisions  
potentially affected:

None

Motion: Mr. Kuchler  
Second: Mr. Keefer  
Ayes: 9  
Nays: 0

General Instructions to Field Employees

Update Required? Y\_\_\_ N\_X\_\_\_  
By - Addition or Revision

Frequency Manual

Update Required? Y\_\_\_ N\_X\_\_\_  
By - Addition or Revision

Standard Sheets potentially affected:

None

Action: Passed as developed at meeting  
Effective - August Letting  
2008 Standard Specifications Book

Received FHWA Approval? Yes



REVISION TO 2006 STANDARD SPECIFICATIONS

SECTION 502, BEGIN LINE 21, DELETE AND INSERT AS FOLLOWS:

**502.03 Concrete Mix Design**

A concrete mix design submittal, CMDS, shall be in accordance with 502.04. The CMDS shall be submitted one week prior to production and approved by the ~~DMTE~~ Engineer. The

Other sections containing  
specific cross references:

None

General Instructions to Field Employees

Update Required? Y\_\_\_ N\_X\_\_

By - Addition or Revision

Frequency Manual

Update Required? Y\_\_\_ N\_X\_\_

By - Addition or Revision

Recurring Special Provisions  
potentially affected:

500-R-515

Standard Sheets potentially affected:

None

Motion: Mr. Andrews  
Second: Mr. Walker  
Ayes: 9  
Nays: 0

Action: Passed as developed at the meeting  
Effective - August Letting  
2008 Standard Specifications Book

Received FHWA Approval? Yes

REVISION TO 2006 STANDARD SPECIFICATIONS

SECTION 711, BEGIN LINE 789, DELETE AND INSERT AS FOLLOWS:

**(b) Bolts, Nuts, and Washers**

Bolts, nuts, and washers shall be in accordance with ~~910.02(e)~~ 910.02(f). All galvanized nuts shall be lubricated with lubricant containing a visible dye. Black bolts shall be oily to the touch when installed. Weathered or rusted bolts shall be cleaned and lubricated prior to installation.

SECTION 711, BEGIN LINE 942, DELETE AND INSERT AS FOLLOWS:

**711.66 Bolted Connections Using Other Than High Strength Bolts**

Bolts for these connections shall be in accordance with ~~910.02(f)~~ 910.02(g).

SECTION 910, BEGIN LINE 210, DELETE AND INSERT AS FOLLOWS:

**(d) (e) Mill Test Reports**

Mill test reports for structural steel shall be in accordance with 711.08 and 916 and shall include Charpy-Impact test data as set out in ~~910.02(e)~~ 910.02(d).

SECTION 910, BEGIN LINE 225, DELETE AND INSERT AS FOLLOWS:

**2. Assembly of Structural Steel in Bridges**

High strength bolts, nuts, and washers used in the assembly of structural steel in bridges, excluding shoes and bearing assemblies, shall be provided in accordance with ~~910.02(e)~~ 910.02(f) and the following additional requirements.

Cross References for Item 13-5 Changes.

Other sections containing  
specific cross references:

None

General Instructions to Field Employees

Update Required? Y\_\_\_ N\_X\_\_

By - Addition or Revision

Frequency Manual

Update Required? Y\_\_\_ N\_X\_\_

By - Addition or Revision

Recurring Special Provisions  
potentially affected:

707-B-165

Standard Sheets potentially affected:

None

Motion: Mr. Wright  
Second: Mr. Heustis  
Ayes: 9  
Nays: 0

Action: Passed as developed at the meeting  
Effective - August Letting  
2008 Standard Specifications Book

Received FHWA Approval? Yes